

WHAT IS CLAIMED IS:

1           1.     A method for processing a job, comprising;  
2           generating a signal when status for the job is changed from a first status to a  
3     second status;  
4           notifying a work process associated with the second status that one job had its  
5     status changed to the second status in response to the signal;  
6           processing, with the work process, the job that had its status changed from the  
7     first status to the second status; and  
8           modifying, with the work process, the status of the job after completing the  
9     processing of the job.

1           2.     The method of claim 1, wherein the signal is transmitted to a routing  
2     process and indicates the second status, further comprising:  
3           processing with the routing process a mapping associating each status with  
4     one work process in response to receiving the signal; and  
5           determining from the mapping one work process associated with the second  
6     status, wherein the determined work process is notified of the job.

1           3.     The method of claim 1, wherein job status is maintained in a database  
2     table including information on the job, further comprising maintaining, with the work  
3     process, a connection with the database that enables communication with the database  
4     table, wherein modifying the status of the job after completing processing comprises  
5     updating the status of the job to an output status associated with another work  
6     process, and wherein updating the status with the output status generates the signal  
7     indicating a change in status.

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1           4.       The method of claim 3, wherein the signal is generated by an event  
2 trigger in the database that responds to an update to the status of the job in the  
3 database table.

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1           5.       The method of claim 3, wherein there are multiple work processes  
2 each associated with one input status and at least one output status, wherein each  
3 ~~worker is enabled to update the job status with one associated output status after~~  
4 ~~completing the processing of the job, wherein the output status for one worker is the~~  
5 ~~input status associated with one other worker, and wherein the definition of input and~~  
6 ~~output statuses for workers defines the workflow of the job.~~

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1           6.       The method of claim 3, further comprising the work process  
2 performing:  
3           determining whether the work process completed processing the job  
4 successfully; and  
5           updating the status of the job to an error status if the work process did not  
6 complete processing the job successfully, wherein the status of the job is updated with  
7 one output status associated with the work process if the job work process completed  
8 processing the job successfully.

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1           7.       The method of claim 6, wherein an error worker is associated with the  
2 error status, ~~wherein updating the job to the error status causes the notification of the~~  
3 ~~error worker, further comprising the error worker performing:~~  
4           performing error recovery operations on the job;  
5           determining whether the error recovery operations corrected the job; and  
6           setting the jobs status of the corrected job to a first possible status in the  
7 workflow.

1 8. The method of claim 3, wherein the work process further performs:  
2 querying the database table for jobs having the status associated with the work  
3 process;  
4 processing the job having the status associated with the work process;  
5 terminating processing of the database table if there are no further jobs in the  
6 database table having the status associated with the work process; and  
7 querying the database table for jobs after receiving the notification.

1 9. The method of claim 8, wherein the work process spawns a work  
2 thread to process one job in the database table having the status associated with the  
3 work process, wherein the work process is capable of spawning multiple work threads  
4 to process different jobs having the status associated with the work process.

1 10. The method of claim 1, wherein the job comprises a data file, wherein  
2 at least one work process processes the data file to alter its format and at least one  
3 other work process processes the data file in the altered format to transmit the work  
4 process to an output device.

1 11. The method of claim 10, wherein at least two workers process the job  
2 ~~at different devices in communication over a network, further comprising accessing~~  
3 ~~the job from another device over the network to process the job at the device on~~  
4 ~~which that worker executes.~~

1 12. The method of claim 1, further comprising:  
2 adding a status update to a list providing status updates for each job; and  
3 using the list to determine how the job has been processed by the work  
4 processes.

1           13.    A system for processing a job, comprising;  
2           means for generating a signal when status for the job is changed from a first  
3 status to a second status;  
4           means for notifying a work process associated with the second status that one  
5 job had its status changed to the second status in response to the signal;  
6           means for processing, with the work process, the job that had its status  
7 changed from the first status to the second status; and  
8           means for modifying, with the work process, the status of the job after  
9 completing the processing of the job.

1           14.    The system of claim 13, wherein the signal is transmitted to a routing  
2 process and indicates the second status, further comprising:  
3           means for processing with the routing process a mapping associating each  
4 status with one work process in response to receiving the signal; and  
5           mean for determining from the mapping one work process associated with the  
6 second status, wherein the determined work process is notified of the job.

1           15.    The system of claim 13, wherein job status is maintained in a database  
2 table including information on the job, further comprising means for maintaining,  
3 with the work process, a connection with the database that enables communication  
4 with the database table, wherein the means for modifying the status of the job after  
5 completing processing comprises updating the status of the job to an output status  
6 associated with another work process, and wherein the means for updating the status  
7 with the output status generates the signal indicating a change in status.

1           16.    The system of claim 15, wherein the signal is generated by an event  
2 trigger in the database that responds to an update to the status of the job in the  
3 database table.

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1 16. The system of claim 15, wherein there are multiple work processes  
2 each associated with one input status and at least one output status, wherein each  
3 worker is enabled to update the job status with one associated output status after  
4 completing the processing of the job, wherein the output status for one worker is the  
5 input status associated with one other worker, and wherein the definition of input and  
6 output statuses for workers defines the workflow of the job.

1 17. The system of claim 15, further comprising:  
2 means for determining whether the work process completed processing the job  
3 successfully; and  
4 means for updating the status of the job to an error status if the work process  
5 did not complete processing the job successfully, wherein the status of the job is  
6 updated with one output status associated with the work process if the job work  
7 process completed processing the job successfully.

1 18. The system of claim 17, wherein an error worker is associated with the  
2 error status, wherein updating the job to the error status causes the notification of the  
3 error worker, further comprising:  
4 means for performing error recovery operations on the job;  
5 means for determining whether the error recovery operations corrected the job;  
6 and  
7 means for setting the jobs status of the corrected job to a first possible status in  
8 the workflow.

1 19. The system of claim 15, further comprising:  
2 means for querying the database table for jobs having the status associated  
3 with the work process;

4 means for processing the job having the status associated with the work  
5 process;  
6 means for terminating processing of the database table if there are no further  
7 jobs in the database table having the status associated with the work process; and  
8 means for querying the database table for jobs after receiving the notification.

1 20. The system of claim 19, wherein the work process spawns a work  
2 thread to process one job in the database table having the status associated with the  
3 work process, and wherein the work process is capable of spawning multiple work  
4 threads to process different jobs having the status associated with the work process.

1 21. The system of claim 13, wherein the job comprises a data file, wherein  
2 at least one work process processes the data file to alter its format and at least one  
3 other work process processes the data file in the altered format to transmit the work  
4 process to an output device.

1 22. The system of claim 21, wherein at least two workers process the job  
2 at different devices in communication over a network, further comprising means for  
3 accessing the job from another device over the network to process the job at the  
4 device on which that worker executes.

1 23. The system of claim 13, further comprising:  
2 means for adding a status update to a list providing status updates for each job;  
3 and  
4 means for using the list to determine how the job has been processed by the  
5 work processes.

1           24.    An article of manufacture for processing a job, the article of  
2   manufacture comprising computer usable media including at least one computer  
3   program and at least one work process embedded therein that causes at least one  
4   computer to perform:  
5           generating a signal when status for the job is changed from a first status to a  
6   second status;  
7           notifying a work process associated with the second status that one job had its  
8   status changed to the second status in response to the signal;  
9           processing, with the work process, the job that had its status changed from the  
10   first status to the second status; and  
11           modifying, with the work process, the status of the job after completing the  
12   processing of the job.

1           25.    The article of manufacture of claim 24, wherein the signal is  
2   transmitted to a routing process and indicates the second status, further comprising:  
3           processing with the routing process a mapping associating each status with  
4   one work process in response to receiving the signal; and  
5           determining from the mapping one work process associated with the second  
6   status, wherein the determined work process is notified of the job.

1           26.    The article of manufacture of claim 24, wherein job status is  
2   maintained in a database table including information on the job, further comprising  
3   maintaining, with the work process, a connection with the database that enables  
4   communication with the database table, wherein modifying the status of the job after  
5   completing processing comprises updating the status of the job to an output status  
6   associated with another work process, and wherein updating the status with the output  
7   status generates the signal indicating a change in status.

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1           30.     The article of manufacture of claim 29, wherein one worker process is  
2     an error worker is associated with the error status, wherein updating the job to the  
3     error status causes the notification of the error worker, further comprising the error  
4     worker performing:  
5           performing error recovery operations on the job;  
6           determining whether the error recovery operations corrected the job; and  
7           setting the jobs status of the corrected job to a first possible status in the  
8     workflow.



1           34.     The article of manufacture of claim 33, wherein at least two workers  
2     process the job at different devices in communication over a network, further  
3     comprising accessing the job from another device over the network to process the job  
4     at the device on which that worker executes.

1            35.     The article of manufacture of claim 24, further comprising:  
2            ~~adding a status update to a list providing status updates for each job; and~~  
3            ~~using the list to determine how the job has been processed by the work~~  
4            processes.